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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,617	12/05/2005	Stephen T. Davis	CHAM-0029	9019
24945	7590	12/18/2007		
STREETS & STEELE 13831 NORTHWEST FREEWAY SUITE 355 HOUSTON, TX 77040			EXAMINER METZMAIER, DANIEL S	
			ART UNIT	PAPER NUMBER
			1796	
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			12/18/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/518,617

**Applicant(s)**

DAVIS ET AL.

**Examiner**

Daniel S. Metzmaier

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2007 and 01 October 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 4 and 7-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4 and 7-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

Claims 4 and 7-16 are pending.

#### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 24 September 2007 has been entered.

#### ***Claim Objections***

2. Claims 9-14 and 16 are objected to because of the following informalities: said claims are not (original) but were presented in amendment filed March 22, 2007. A correct claim list is required in response to this action. Appropriate correction is required.

3. Claim 11 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 11 recites the same limitations inserted into the independent claim 7 by amendment.

#### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 4 and 7-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The limitation "to reduce the effects of liquid loading" is indefinite since it is unclear what "effects" are being reduced.

The limitation "substituted with functional groups" as they pertain to Y is indefinite. The original claims 1 and 6 set forth "optionally substituted with functional groups" but the remaining disclosure is silent regarding what functional groups are encompassed by said limitation. It is unclear what are the metes and bounds of the functional groups that make up said claim limitations.

The limitation "free of any significant amount of chloride containing compounds" is a relative limitation since applicants do not set forth any quantitative value for evaluating "significant".

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 7, 11-13 are rejected under 35 U.S.C. 102(e) as being anticipated by England (6720290).

England teaches a foamed composition used to treat a gas containing well (column 1, lines 17-30), which can comprise a surfactant within the scope of the present invention (see claims and column 2, lines 35-50). A foam would reduce liquid loading as in claim 7. The whole purpose of using the foam is to increase productivity as in claims 12 and 13. England (column 7, example 2, lines 29-44) discloses the use of 2 gal/1000, which equates to 0.2 or 2000 ppm. Said values read on the claimed about 1000 ppm by volume of surfactant.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 4, 7, 8, 11-14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Qu (2002/0023752).

Qu teaches a composition which can be used in gas wells (paragraph 0002), which can contain a zwitterionic surfactant within the scope of the present invention (0180). Foams are taught as being used at claims 22-24 and paragraph (0214). An alcohol is taught as being used as in claim 4 (see 0109 and 0207). Qu differs in that in the structure I of paragraph 0180, a specific example of R6 being alkylene of 2 is not

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disclosed. Qu however teaches that R6 is preferably alkylene of 1 to 3, and discloses examples of R6 being 1. It would thus be obvious to one of ordinary skill in the art to utilize compounds of Qu having R6 as alkylene of 2, given the teaching of Qu that such are preferable, and the exemplification of R6 being alkylene of 1, since compounds with such similar structures would be expected to have similar utility. A foam would reduce liquid loading as in claim 11. The whole purpose of using the foam is to increase productivity as in claims 12 and 13.

10. Claims 9, 10 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Qu (2002/0023752) or England (6720290).

Qu and England are taught above. Qu and England differ in not teaching the use of a capillary string for introduction of the foam and the concentration of about 1000 ppm by volume surfactant. It would however be obvious to one of ordinary skill in the art to utilize various known wellbore delivery means such as a capillary string, in order to achieve optimum pressure, delivery or placement of the fluid to the wellbore. The surfactants being the same as herein would be non-corrosive.

England (column 7, example 2, lines 29-44) discloses the use of 2 gal/1000, which equates to 0.2 or 2000 ppm.

Qu (¶ 184) discloses concentrations of zwitterionic surfactants including concentrations at 0.5%.

Merely modifying the process conditions such as temperature and concentration is not a patentable modification absent a showing of criticality for a result-effective

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variable, i.e., a variable which achieves a recognized result. Clearly the concentration of a foaming surfactant is a result-effective variable for foaming.

***Response to Arguments***

11. Applicant's arguments filed 01 October 2007 have been fully considered but they are not persuasive.

12. Applicants (page 4) assert:

Both England (US 6,720,290) and Qu (US Publ. 2002/0023752) deal with well formation fracturing fluids and methods. The fracturing operations of England and Qu are performed when the well is not producing. Therefore, neither England or Qu make any suggestion to introduce the aqueous mixture during gas production.

Applicants do not define the metes and bounds of gas production that the limitation "during gas production" would distinguish the references. Since both references are directed to the production of hydrocarbon liquids and gas from wells, the limitation has been interpreted as any time during production prior to completion of the well as dormant.

It is further noted that the limitations of 'reducing the effects of liquid loading' were present and rejected in the last Office Action. See claim 11 and the above objection of claim 11.

***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. WO 98/56497 discloses amphoteric surfactants for use in stimulating the production of fluids such as natural gas. See at least page 17, lines 13 et seq; and claims.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (571) 272-1089. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David W. Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



**Daniel S. Metzmaier**  
**Primary Examiner**  
**Art Unit 1796**

DSM